

## Six slots for COMSAT?

Space is limited. At least the space for synchronous communications satellites to serve the continental United States, Alaska, Hawaii and Puerto Rico is limited to positions between 94 and 124 degrees west longitude. With 5-degree intervals between satellites, there is room for six slots.

The Communications Satellite Corp., established by Congress as a publicly owned, quasigovernmental utility in 1962, this week placed two proposals before the Federal Communications Commission which, if approved, would use all six slots. Competition for the domestic satellite slots has been opened to all comers (SN: 8/29/70, p. 160), and the COMSAT proposal is expected to draw more controversy than the 1962 Communications Satellite Act, which established COMSAT and gave it controlling power in INTELSAT—the international communications consortium in operation since 1965.

One of the proposals was made jointly with the American Telephone & Telegraph Co. It is an updated version of an earlier joint COMSAT-AT&T proposal. In the proposal's latest form, COMSAT would procure and launch three satellites for exclusive use of AT&T. Each would have a capacity of 10,800 circuits. Their total cost would be \$96.5 million.

**The other proposal**, new this week, would allow COMSAT to establish a system of three satellites to serve multi-purpose users. Two of the satellites would be operational; the third would be a backup.

The proposal for three COMSAT satellites details a nationwide network of 132 ground stations that would ultimately cost about \$248 million. According to COMSAT president Joseph V. Charyk, the system would be capable of handling all types of high quality communications including telephone, data services and television programming. Each satellite, when using a 97-foot antenna, could carry 14,400 telephone circuits, or more than a billion bits per second of high speed digital information, or 24 television channels—or combinations of these. The two operational satellites would each operate with 24 transponders in microwave frequencies between 4 and 6 gigahertz.

Dr. Charyk notes that large potential users (providing they don't get their own systems) would have a total requirement equivalent to 24 full-time transponders. These would include carriers such as General Telephone System Companies, Western Union Telegraph Co. and Datran. An additional 18 to 20 transponders would serve other users: news media, data processing, in-

dustrial and wholesale distributors, television networks (8 equivalent full-time transponders) and the public broadcasting and cable television industry.

"We are not proposing a monopoly," says Dr. Charyk. "But we are saying that the major users can satisfy their requirements through pooling in a single system of satellites." He adds that the single system would be the only way for small users to benefit.

**Dr. Charyk** may not call acceptance of the two proposals a monopoly, but other companies, including Western Union, Hughes Aircraft Co., Fairchild-Hiller and Western Tele-Communications have made, or plan to make, similar proposals to the FCC, for use of some of the six slots. The long-standing debate over participation in a domestic satellite system for the United States has undoubtedly entered another protracted phase. □

## Mississippi site chosen

The fierce competition among the National Aeronautics and Space Administration's 10 field centers surfaces every time a new program begins. The fewer the programs, the more intense it seems to be. The competition for the space shuttle is no exception. Although a decision has not yet been announced for the sites for flight testing and eventual shuttle ports, NASA announced site selections this week for shuttle engine testing.

For sea-level testing, NASA is reactivating its Mississippi Test Facility in Hancock County, Miss. It had been phasing down as Apollo Saturn testing ended. Testing under simulated altitude conditions will be done at the Air Force's Arnold Engineering Develop-

## Fletcher to head NASA

Among the 150 guests at the White House dinner honoring the Apollo 14 astronauts this week was the heir-apparent to the National Aeronautics and Space Administration's top post—Dr. James C. Fletcher. Three days earlier, President Nixon had announced Dr. Fletcher as his choice to succeed Dr. Thomas O. Paine (SN: 8/1/70, p. 93), who resigned as Administrator last Sept. 15.

**When approved** by the Senate, Dr. Fletcher will bring a strong set of credentials to the NASA position—educator, businessman, physicist, adviser, arbitrator and, sometimes, soft-spoken philosopher. For the past six years he has been president of the University of Utah. Before that he had been president of two space corporations—the Space General Corp., which he organized and later sold to Aerojet-General, and the Space Electronics Corp., a subsidiary of Aerojet. He began his involvement with space activities as associate director of the Guided Missile Laboratory at Ramo-Woolridge Corp. (now TRW, Inc.), which designed the Atlas intercontinental ballistic missile. In Washington Government circles he has been a consultant to the Office of the Secretary of Defense, to the Arms Control and Disarmament Agency and the President's Science Advisory Committee. He holds a Ph.D. in physics and mathematics from the California Institute of Technology. He thus would be the first NASA head with a doctorate in

basic science. Coupled with his obvious industry and administrative skill, is a gentle, soft-spoken manner.

What Dr. Fletcher will do with the 12-year-old space legacy he has inherited is yet to be seen. But this week, Rep. Olin E. Teague (D-Tex.), chairman of the House Science and Astronautics Committee's subcommittee on manned space flight, and Rep. James G. Fulton (R-Pa.), ranking Republican on that committee, criticized the new nominee for coming to NASA, "a very positive agency, with negative statements." The negative statements attributed to Dr. Fletcher in a newspaper quoted him as saying that "interest is waning in the space program and it is going to be up to us to have more exciting things to rekindle the interest." In rebuttal Teague cited his experiences with the "American public" on a recent 21-state tour with Apollo 13 Astronaut John L. Swigert in which he found "both an understanding and an enthusiasm for a continued strong national space effort."

**"His background** in space science and physics," says one Government scientist of Dr. Fletcher, "may make him lean more heavily to the unmanned space program." But it is generally considered that Dr. Fletcher will seek to work out in his own way what President Nixon outlined for the 1970's—"a bold and balanced mix of both manned and unmanned space science programs."